

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow. Applicant respectfully requests that the foregoing amendments be entered at least because they incorporate the subject matter of dependent claims 3-4 into independent claim 1, and thus raise no new issues requiring further search or consideration.

Claims 3-4 are requested to be cancelled without prejudice or disclaimer. Claims 1, 5 and 7 are currently being amended. Claim 1 is amended to incorporate the subject matter of claims 3 and 4. Claims 5 and 7 have been amended to change their dependency to claim 1. No new matter has been added.

This amendment changes and deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1 and 5-10 are now pending in this application.

Rejections under 35 U.S.C. § 103

Claims 1-3, 5-6 and 8-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0124677 to Tomaru ("Tomaru") in view of U.S. Patent No. 5,048,364 to Minamoto ("Minamoto"). Claims 4 and 7-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomaru and Minamoto in view of U.S. Patent No. 5,669,634 to Heinzman et al. ("Heinzman"). Applicant respectfully traverses these rejections for at least the following reasons.

Independent claim 1, as amended, recites "*an eccentric bush interposed between the rotation center axle of the bell crank lever and fixed bracket, the rotation center axle of the bell crank lever being enabled to swing with respect to the fixed bracket via the eccentric bush*, wherein a predetermined eccentric distance is provided between a rotation center axis

of the eccentric bush and a center of the rotation center axle of the bell crank lever, *wherein a curvature of a center line in an elongated direction of the elongated hole is made coincident with a curvature of the pivotal orbit of the tilt input axle.*” Applicant submits that the applied references do not suggest the recited arrangement of the eccentric bush in the context of the components of the steering column assembly of claim 1, where the eccentric bush is arranged to be interposed between the rotation center axle of the bell crank lever and the fixed bracket, nor do the applied references suggest as recited “a curvature of a center line in an elongated direction of the elongated hole is made coincident with a curvature of the pivotal orbit of the tilt input axle.”

The Office Action recognizes that Tomaru does not disclose the arrangement of the eccentric bush as in claim 1, but supplies Minamoto for disclosing an eccentric bush. Applicant submits however, that Tomaru, Minamoto and Heinzman do not suggest the specifically recited arrangement of an eccentric bush as in claim 1.

Minamoto discloses an eccentric disk 40 which serves to link the screw nut 32 with the tilt bracket 5, via arm 37 of the tilt bracket. In the Minamoto arrangement, the upward/downward (linear) movement of the screw nut is converted to swing (arcuate) movement of the tilt bracket 5 via the eccentric plate 40 so that the steering wheel is tilted in the upward/downward direction. In particular as can be seen from FIG. 7 of Minamoto, the upward/downward (linear) movement of the screw nut 32 is converted to the arcuate movement of the tilt bracket 5, with the center line 6c of the linkage pin 6 as the center. With the movement of the screw nut 32, the center line 40c of the eccentric plate is revolved with the center line 38c of pin 38 as a center so that the center line 40c of the linkage pin follows an arc shape with the center line 6c of the linkage pin 6. Thus, the Minamoto system allows the linear movement of the screw nut 32 on the screw 13 to be converted to the swing movement of the tilt bracket 5.

Minamoto, however, does not suggest that an eccentric bush should be arranged to be interposed between a rotation center axle of a bell crank lever and a fixed bracket as arranged in Claim 1. Minamoto merely suggests that the eccentric disk should be arranged so as to convert the linear motion provided by a screw nut to swing movement of a tilt bracket. Thus,

even if there were motivation to combine Tomaru and Minamoto (which there is not), the modified Tomaru device would include the eccentric disk near the engagement portion 408 of the tilt rocking member 407, between the rocking member 407 and the tip end of the rod 406, so that the linear motion provided by the rod 406 is converted to swing motion of the rocking member. There is simply no suggestion from Minamoto to provide an eccentric disk between any rotation center axle of the rocking member (equated with the recited bell crank lever) and upper attachment 401a (equated with the fixed bracket as claimed).

The Office Action on page 7 suggests that the difference from Tomaru and Minamoto and the present claims would be obvious as a mere reversal of parts. Applicants respectfully disagree. The arrangement of the eccentric bush in the claim 1 assembly operates in a different fashion than that described in Minamoto. As discussed in the present application, by using the eccentric bush 26 in the recited arrangement, an error distance between the center line P of the elongated hole 20 and an orbit Q of the tilt input axle can be eliminated (compensated for by eccentric distance α). The claimed arrangement, or its advantages, is not suggested by Minamoto and Tomaru. The arrangement of the eccentric disk 40 in Minamoto does not suggest making the rotation orbit of a position at which a tilt input axle of a bell crank lever is supported coincident with the rotation orbit of the position at which tilt input axle is disposed, as results from the arrangement of claim 1. Thus, the claimed arrangement in claim 1 is more than a mere reversal of parts, but results in the advantage of eliminating an error distance between a center line P of the elongated hole 20 and an orbit Q of the tilt input axle.

Claim 1 also recites “wherein a curvature of a center line in an elongated direction of the elongated hole is made coincident with a curvature of the pivotal orbit of the tilt input axle.” The Office Action relies on Heinzman for disclosing this feature, which was incorporated from claim 4. Applicants respectfully disagree.

Heinzman discloses a clamp 68 with a cross bolt 82 on a mast jacket 12 projected through a pair of arc-shaped slots 84A, 84B, where the bolt is centered about the centerline 62, and the lever 86 rotates the cross bolt (col. 3, lines 31-34). When the cross bolt 82 is

loose between the vertical sides 72A, 72B, the mast jacket 12 is rake adjustable. When the cross bolt 82 is tight between the vertical sides 72A, 72B, the mast jacket is rigidly clamped to the box-shaped bracket 70 (col. 3, lines 35-39).

Heinzman, however, merely discloses details of the tightening and loosening of the cross bolt 82 in slots 84A, 84B, where the cross bolt is centered about the lateral center line 62, but does not disclose the feature of claim 1 of “wherein a curvature of a center line in an elongated direction of the elongated hole is made coincident with a curvature of the pivotal orbit of the tilt input axle” based on the recited arrangement in claim 1.

The dependent claims are patentable for at least the same reasons as independent claim 1, from which they ultimately depend, as well as for further patentable features recited therein.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741.

If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By Richard L. Schwaab

FOLEY & LARDNER LLP
Customer Number: 22428
Telephone: (202) 672-5414
Facsimile: (202) 672-5399

Richard L. Schwaab
Attorney for Applicant
Registration No. 25,479

Thomas G. Bilodeau
Attorney for Applicant
Registration No. 43,438